FEDERAL COMMUNICATIONS COMMISSION Washington, DC 20554

 e_i

)	State of the second
)	
)	
)	GC Docket No. 96-42
)	
)	
)	
)))))

Before the

ERRATA

On Thursday, April 11, 1996, TIA filed an errata in the above captioned proceeding. Subsequent to the filing, it was discovered that the TIA Engineering Manual [Attachment A] included was not the most updated edition. It is necessary to add the most updated version to the filing.

To facilitate FCC's staff incorporation of the correction, we have replaced the older TIA Engineering Manual [Attachment A] with the most recent edition. We apologize for the error and hope that it will not inconvenience any party.

Respectfully submitted,

TELECOMMUNICATIONS INDUSTRY ASSOCIATION

1201 Pennsylvania Ave. NW, Suite 315 Washington, DC 20044-0407

202-626-6231

Before the Federal Communications Commission Washington, D.C. 20554

P_{ij}	A STATE	وم
APR	1 1 1996	,

In the Matter of)	Contract to the second
Implementation of Section 273(d)(5) of the Communications Act of 1934)	GC Docket No.96-42
as amended by the Telecommunications)	GC DOCKET NO.70-42
Act of 1996 Dispute Resolution)	
Regarding Equipment Standards)	

REPLY COMMENTS OF THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION

The Telecommunications Industry Association ("TIA") hereby submits the following reply to initial comments submitted in response to the Notice of Proposed Rulemaking ("NPRM") adopted by the Commission in the above-captioned proceeding.

* * * * *

The Commission's task in fashioning a default or alternative dispute resolution process pursuant to Section 273 (d)(5) of the Telecommunications Act of 1996 ("1996 Act") must be viewed in the context of the other provisions of Section 273 (d). This new subsection of the Communications Act is not an academic exercise or codification of "business as usual"; rather, it is intended to resolve real problems faced by telecommunications equipment manufacturers in dealing with entities which exercise market power, e.g., exclusive control, over the development of "industry-wide" standards and generic requirements ("GRs") and the certification of products. This issue is especially important because the entity which currently has such market power, Bell Communications Research¹ ("Bellcore"), may soon be able to engage in the manufacture of telecommunications equipment in direct competition with many of the companies for which it now provides certification services and guidance regarding compliance with "industry-wide"

¹Bellcore is owned jointly and equally by the seven Regional Bell Operating Companies.

standards and GRs. In crafting the 1996 Act, the Congress recognized the potential problems associated an absence of competition in the provision of certification, "industry-wide" standards, and GRs, and with permitting such an entity to engage in competitive activities without any safeguards.

One of the safeguards that the Congress imposed is the default or alternative dispute resolution process, which is intended to protect the interests of parties with an interest in "industry-wide" standards and GRs issued by Bellcore or any other non-accredited standards development organization ("NASDO"). By using the term "all" in Section 273 (d)(5), Congress clearly intended to protect the right any party to seek review of disputes with Bellcore or any other NASDO with market power through the alternative dispute resolution process. It is against this backdrop that the proposals submitted in this matter should be evaluated by the Commission, and for this reason that the Commission should reject any alternative dispute resolution proposal which does not provide by review by a neutral decision-maker or protect the rights of any single funding party.²

With this in mind, TIA, in its initial comments, expressed general support for the proposed "default" dispute resolution procedure advanced by Corning, Incorporated ("Corning"), which would utilize the technical expertise and resources of TIA and other standards development organizations ("SDOs") accredited by the American National Standards Institute ("ANSI") in resolving standards-related disputes arising under Section 273(d)(4) of the Communications Act. TIA continues to believe that the "accelerated consensus" approach reflected in the Corning proposal provides the correct model for resolving disputes in cases where the participants cannot agree on the procedure to be followed in resolving controversies relating to proposed "industry-

²Providing protection for a minority of the parties or a single party will not lead to "tyranny by the minority," as the 1996 Act requires that parties with a bona fide interest provide funding for activities, limits the time during which disputes must be resolved, limits disputes to technical matters, and imposes penalties for delays caused by frivolous actions. In addition to these statutorily-imposed restraints, there is industry (peer) pressure to reach agreement since so many of the industry's are conducted jointly in collegial processes and because production and sale of products is often dependent on the existence of industry-accepted standards or specifications.

wide" standards and GRs developed by NASDOs. Comments submitted on behalf of Bellcore purport to identify certain "flaws" in the Corning proposal. TIA believes that many, if not all, of the criticisms advanced by Bellcore reflect an inaccurate characterization of TIA's existing standards development activities and the role that TIA might be called upon to play in resolving disputes under the Corning proposal. In order to ensure that the Commission has a complete and accurate record on which to base its decision in this proceeding, TIA offers the following brief reply.

* * * * *

In its comments, Bellcore suggests that adoption of Corning's proposal would result in referral of disputes over proposed Bellcore "generic requirements" to a "manufacturer-oriented" standards body, implying that TIA is such a body. Bellcore further asserts that the "likely effect" of Corning's proposal would be to leave "critical" issues "unresolved and prey to incompatible and proprietary solutions offered by dominant suppliers." In addition, Bellcore argues that referral of disputes arising under Section 273(d)(4) to an accredited SDO such as TIA is inappropriate, suggesting that the organization may not have resources and procedures that would allow a decision to be reached within the 30-day period specified in Section 273(d)(5). Bellcore also questions the ability of TIA and other accredited SDO's to render an unbiased decision. Each of these contentions is inaccurate and/or misleading and should not be adopted by the Commission as a basis for evaluating the Corning proposal

To assist the Commission in developing an accurate understanding of TIA's activities, copies of TIA's ANSI-approved Engineering Manual and the 1995 TIA Standards and Technology Annual Report ("STAR") are appended hereto. As the TIA Engineering Manual indicates, in order to satisfy ANSI accreditation criteria, the standards development work undertaken through TIA's

³See Bellcore Comments at 21, n.18.

⁴<u>Id</u>. at 4.

⁵Id. at 19.

⁶Id. at 18-19.

engineering committees ("ECs") and subcommittees is open to <u>all</u> U.S. companies that have a "direct and material interest within the respective jurisdiction of the Formulating Groups." Both TIA member companies and a significant number of non-members participate in TIA's standards development activities. The 1995 STAR includes lists of TIA member and non-member companies that participate in the association's engineering committee activities. It should be noted that Bellcore itself participates in such activities as a TIA member, while six of the seven Regional Bell Operating Companies participate as non-members.

Contrary to Bellcore's suggestion, TIA's engineering committees and subcommittees are <u>not</u> dominated by large vendors. Indeed, 89% of the association's membership is comprised of small and mid-size companies.⁹ The procedure followed by TIA's engineering committees and subcommittees gives all firms, large or small, a single vote. Moreover, consistent with ANSI requirements, the chairs of all TIA engineering committees must "make an affirmative effort to obtain full representation of all interest categories in Formulating Groups within their jurisdiction and to avoid domination by any one group." ¹⁰

⁷See TIA Engineering Manual [Attachment A, hereto], Section 3.2.1, p.8.

⁸See 1995 TIA Standards and Technology Annual Report [Attachment B hereto], pp. 38-41.

⁹TIA considers small and mid-size companies to be those with less than \$35 million in annual telecommunications-related sales. Article III of TIA's bylaws allows any company (or a division of a company) formed under the laws of the United States to be eligible for general membership if it is "engaged in the business of developing, manufacturing, distributing, selling, installing, launching, or consulting in respect to, communications or information technology products (including software) or services other than common carrier services." Any company not eligible for general membership may become an associate member of TIA.

¹⁰TIA Engineering Manual. Section 3 2.1, p.9. It should be noted that while TIA and other ANSI-accredited SDOs are required to maintain a balance of interests and avoid domination by any one group, Bellcore and other non-accredited SDOs (NASDOs) were not subject to any such constraints, prior to enactment of Section 273(d)(4) of the Communications Act, which imposes certain ANSI-like requirements on NASDOs that are engaged in the development of "industrywide" standards and generic requirements. See 47 U.S.C. § 273(d)(4)(A).

With regard to Bellcore's arguments regarding the feasibility of Corning's proposed ANSI-based dispute resolution procedure, TIA believes that the "accelerated consensus" process described by Corning is workable and can be accommodated within TIA's existing standards development infrastructure. As the attached materials indicate, TIA's engineering committees daily debate technical issues in an effort to develop industry consensus on telecommunications standards in a wide range of areas. As part of this effort, TIA utilizes both formal and informal processes to address and resolve disputes as they arise. TIA's standards and technology staff and the Chair of the TIA Technical Committee are available to address informal questions and complaints raised in the context of specific engineering committee and subcommittee activities. In addition, ANSI requires accredited SDO's to establish a formal appeals process, which is set forth in Annex A of TIA's Engineering Manual ¹¹ However, formal appeals are rare; indeed, none has been filed in the period since January 1992, when TIA's Engineering Manual received initial ANSI approval. ¹² TIA believes that this record demonstrates that the ANSI-approved, consensus-based process which it utilizes is generally effective in resolving technical standards-related disputes without the need to invoke more formal dispute resolution processes.

TIA further believes that to the extent the ANSI-like requirements of Section 274(d)(4) are properly implemented, the likelihood that the Commission-prescribed "default" dispute resolution procedure will need to be utilized will be significantly reduced. However, to the extent that disputes cannot be resolved through the NASDO's internal processes or whatever alternative procedure the parties may agree to use, TIA believes that its engineering committees and subcommittees are well-equipped to serve as a vehicle for resolving disputes arising within their respective areas of expertise in a timely manner, consistent with the requirements of

¹¹See TIA Engineering Manual, Annex A, Section A5, pp. 47-48.

¹²Similarly, it is TIA's understanding that Committee T-1 has had only one dispute in its 12-year history that resulted in an appeal to ANSI.

¹³The potential imposition of FCC sanctions for frivolous complaints, pursuant to Section 274(d)(5) of the Communications Act, also will assist in ensuring that only <u>bona fide</u> disputes are referred for resolution under the Commission-prescribed "default" procedure.

Section 274(d)(5), utilizing the "accelerated consensus" approach embodied in Corning's proposal.¹⁴

TIA takes strong exception to the notion that adoption of Corning's proposed "default" procedure would give a disagreeing party ("DP") a "de facto veto" over a NASDO's proposed generic requirements¹⁵ or would allow a single party to "force" all participants to use the Commission-prescribed "default" process in resolving disputes with a NASDO.¹⁶ As TIA understands it, the Corning proposal would allow a DP to invoke the proposed "default" procedure with respect to its dispute only, while allowing other participants to agree with the NASDO on the use of a different procedure for any disputes which they may have with respect to a proposed "industrywide" standard or generic requirement

Moreover, once a dispute has been referred to the SDO for resolution under the "default" procedure, the Corning proposal clearly states that the SDO engineering committee's role is to determine whether or not a consensus exists in support of the NASDO's position among the EC's members, "excluding the EC members who may be affiliated with either the NASDO or the disputing DP." Accordingly, the DP will not have a vote much less a "veto" over issuance of a generic requirement which includes the disputed item. If the consensus of the group supports the NASDO's position, the proposed standard or generic requirement may be issued. Even where the EC decides that it cannot support the NASDO position, under the Corning proposal, the effect of this determination is merely to require that the NASDO indicate that an industry consensus currently does not exist in support of its proposed standard or generic requirement, by

¹⁴Contrary to Bellcore's assertion (see Bellcore Comments at ii, 19, n.14), TIA does not understand Corning's proposal to "foreclose" the use of Committee T1 or any other ANSI-accredited organization engaged in the development of telecommunications standards to resolve disputes arising under Section 274 (d)(4), using the Commission prescribed "default" procedure. However, the nature and scope of TIA's standards development activities would appear to make it a logical candidate for referral of disputes in many instances

¹⁵See Belicore Comments at 9.

¹⁶<u>Id</u>. at 12.

removing the relevant item from the list of resolved issues and including it on a new list of Industry-Reviewed Unresolved Issues.¹⁷

It is TIA's understanding that in this event the NASDO remains free to maintain its position and to seek an industry consensus; it is merely barred from asserting or implying that such a consensus exists at present. In such event, while the specific dispute over the inclusion of a disputed item in a NASDO standard or GR has been resolved, the underlying technical issue may continue to be debated. However, carriers that are seeking to purchase products remain free to adopt procurement specifications that incorporate the NASDO's proposed standard or generic requirement, irrespective of whether or not an industry consensus then exists in support of the NASDO's position. Accordingly, Bellcore's assertion that adoption of the Corning proposal would allow a single party to deny carriers and their subscribers the "substantial benefits" that Bellcore's efforts to develop generic requirements may provide is at best misleading, since individual carriers retain the freedom to demand that vendors comply with Bellcore's proposed requirements even in cases where an industry consensus does not exist in support of such requirements.

* * * * *

For the reasons described in this submission and in its initial comments in this proceeding, TIA urges the Commission to forego the binding arbitration approach advanced in its notice and, instead, adopt Corning's proposed "accelerated consensus" procedure as the "default" procedure to be used in resolving disputes arising under Section 273(d)(4) of the Communications Act.

¹⁷See Corning Comments, Attachment A, Section 4.2

¹⁸See Corning Comments at 9

¹⁹Bellcore Comments at 9

Respectfully submitted,

Jor D. Carpenter, Jr.

Vice President, Government Relations
Telecommunications Industry Association 1201 Pennsylvania Avenue, N.W., Suite 315

Washington, DC 20044-0407

April 11, 1996

CERTIFICATE OF SERVICE

I, Jot D. Carpenter, Jr., do hereby certify that this 11th day of April, 1996, copies of the foregoing "Reply Comments of The Telecommunications Industry Association" were delivered by first class mail, unless otherwise indicated, to the following individuals:

Sheldon Guttmann*
Associate General Counsel
Office of the General Counsel
Federal Communications Commission
1919 M Street, NW, Room 616A
Washington, DC 20554

Sharon B. Kelley*
Staff Attorney
Office of the General Counsel
Federal Communications Commission
1919 M Street, NW, Room 619
Washington, DC 20554

John Nakahata*
Assistant to the Chairman
Federal Communications Commission
1919 M Street, NW, Room 814
Washington, DC 20554

Daniel Gonzalez*
Legal Assistant to Commissioner Chong
Federal Communications Commission
1919 M Street, NW, Room 814
Washington, DC 20554

Rudolfo M. Baca* Legal Advisor to Commissioner Quello Federal Communications Commission 1919 M Street, NW, Room 802 Washington, DC 20554

James L. Casserly*
Senior Legal Advisor to Commissioner Ness
Federal Communications Commission
1919 M Street, NW, Room 832
Washington, DC 20554

Michael J. Knapp Director - Federal Regulatory Matters Bellcore WAS-600 2101 L Street Suite 600 Washington, DC 20037

William B. Barfield Michael J. Schwarz BellSouth Corporation BellSouth Telecommunications Suite 1800 1155 Peachtree Street, N.E. Atlanta, GA 30309-3610

Robert B. McKenna U S West, Inc. Suite 700 1020 19th Street, N.W. Washington, DC 20036

Lawrence W. Katz The Bell Atlantic Telephone Companies 1320 North Court House Road Eighth Floor Arlington, VA 22201

Joseph A. Klein
James D. Porter, Jr.
Michael S. Slomin
Bell Communications
Research, Inc.
445 South Street
Morristown, NJ 07960

Philip L. Verveer, Esq.
John L. McGrew, Esq.
Willkie Farr & Gallagher
Suite 600
1155 21st Street, N.W.
Washington, DC 20036-3384

Jot D. Carpenter,

Dated: April 11, 1996

* By Hand Delivery

Telecommunications Industry Association

Attachment

Engineering Manual

A

- Description of the organization of the Standards and Technology Department of the Telecommunications Industry Association and its Engineering Committees.
- Rules for operation of the Engineering Committees.
- Rules for operation of the Technical Standards Subcommittee.
- Legal Guidelines

Telecommunications Industry Association
2001 Pennsylvania Avenue, N.W., Suite 800
Washington, DC 20006-1813

December 6, 1991



Copyright @ 1992 by

2

TELECOMMUNICATIONS INDUSTRY ASSOCIATION 2001 Pennsylvania Avenue, NW; Suite 800 Washington, DC 20006

All rights reserved. Printed and bound in the United States of America. No part of this report may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without permission in writing from the publisher.

Table of Contents

INTRODUCT	rion
Rela	S OF POLICY
Inte	
IMPORTANT	TERMS iv
1 OBJECTI	EVE AND SCOPE
2 ORGANIZ	ATION
2.1	General
2.2	Standards and Technology Department
2.3	Administration
2.4	Structure
2	2.4.1 TIA Technical Committee
	2.4.2 TIA Technical Standards Subcommittee (TSSC) . 3
3 ENGINEE	RING COMMITTEES
3.1	Establishment of Committees
	Subcommittees
	Working Groups
	formulating group 5
3.2	Membership
	3.2.1 Eligibility 6
	3.2.2 Eligibility for Chairmanship
	3.2.3 Company Representation
	3.2.3 Company Representation
	3.2.3.2 Alternate Voting 8
	3.2.3.3 Supplemental Representative 8
	3.2.3.4 Multiple Votes 8
	3.2.3.4 Multiple Votes
	3.2.5 Membership Continuation 9
	3.2.6 Liaison Representatives
	3.2.7 Non-U.S. Observers
3.3	Formulating Group Functions
3.4	Responsibilities of a Chairman
4 DEVELO	PMENT OF A WORK PROGRAM
4.1	Formulating Group Scope
4.2	Types of Projects
4.3	Project Initiation
4.4	
4.5	
4.6	Format and Style
5 MEETING	GS

	5.1 5.2	Meeting Location and Facilities	•		•	•	1: 1: 1:
		5.2.3 Meeting Reports	•	•	•	•	1
		5.2.3.2 Legal Approvals	•	•	•	٠	10
	5.3	Conduct of Meeting				•	10
		5.3.1 General		•			16
		5.3.2 Quorum					1
		5.3.3 Voting Procedures					17
		5 3.3 1 Voting in Formulating Group					
		Meetings					1-
		5 3 3 2 Tetter Ballote	•	•	•	•	7
		J.J.J.Z Dectel Ballots	•	•	•	•	1
6.	DEVEL	OPMENT OF TIA STANDARDS AND SPECIFICATIONS .					18
	6.1	Definitions					18
	6.2	TIA Standards and Specifications	_		_	_	1.8
	6.3	Establishing a Standards Project				_	19
	6.4	Standards Proposal	•	•	•	•	19
	6.5	Standards Proposal	•	•	•	•	20
	6.5	Pallet Degults	•	•	•	•	21
	6.6	Ballot Results	•	•	•	•	21
	6./	Comment Resolution	•	•	•	•	21
	6.8	Reballoting of a Standard Proposal	•	•	•	•	22
		6.8.1 Complete Reballot	•	•	•	•	22
		6.8.2 Default Ballot			•	•	23
	6.9	One Company, One Vote Rule	•		•	•	24
	6.10	Standards Approval				•	24
	6.11	Declaration as an ANSI/TIA/EIA Standard or					
		Specification	•				24
7	REAFFI	RMATION, REVISION OR RESCISSION OF STANDARDS	•	•	•	•	25
		Requirements		•	•	•	25
	7.2	Procedures	•		•		25
		7.2.1 Procedures for Revision		•			25
		7.2.2 Procedures for Reaffirmation	•				26
		7.2.3 Procedures for Rescission					26
		7.2.3 Procedures for Rescission	la	rd		•	26
_	CDT11	MAR AMININING DITTIMENT IND ADDATES AT AND					
8	TRIAL (USE STANDARDS, BULLETINS AND SPECIFICATIONS .	•	•	•	•	2/
	8.1	Trial Use Standards		0	•	•	27
	8.2	Bulletins		•	•	•	27
	8.3	Specifications		•	•	•	28
۵	DIETTC	HED DOCIMENTS					20
9	LOPPISI	HED DOCUMENTS	,	•	•	•	20
	9.1	General	, ,	•	•	•	28
	9.2	TIA Standards and Technology Department Docum	aei	ודנ	S	•	28
	9.3	Subscriptions and Sale of Documents		•	•	•	28
10	INTER	PRETATION OF STANDARDS		_	_	_	29
_ •	10.1	Request for Formal Interpretation				•	29
	10.1	Processing an Interpretation Request	•	•	•	•	29
	10.2	rrocessing an interpretation request		,	•	•	23
11	CORRES	SPONDENCE AND RECORDS					30

RELATIONS WITH OTHER ORGANIZATIONS 12.1 Avoidance of Duplication of Effort 12.2 References 12.3 Public Pronouncements 12.4 International Commonality Appeals	31 31 31 32
ANNEX A - Technical Standards Subcommittee (TSSC)	33
A1. SCOPE	35
A2. RESPONSIBILITIES	
A3. MEMBERSHIP	35
A4. OPERATION OF THE TECHNICAL STANDARDS SUBCOMMITTEE	
(TSSC)	36
A4.1 Approval of TIA Standards Proposals	37
A5. Appeals	
A5.1 Complaints	
A5.2 Response	
A5.3 Hearing	
A5.4 Appeals Panel	
A5.5 Conduct of the Hearing	39
A5.6 Decision	39
A5.7 Further Appeal	10
AD. / Put chet Appear	40
Annex B - Project Request Form & ANSI PINS Form	41
Annex C - Meeting Notice & Agenda	47
Annex D - Meeting Report	51
Annex E - TIA Legal Guides	57
Annex F - Committee Correspondence Letterhead	67

(This page intentionally blank.)

INTRODUCTION

A major function of the Telecommunications Industry Association (TIA) is the writing and maintenance of voluntary industry standards and specifications, the formulation of positions for presentation on behalf of the United States in international standards fora, and the preparation of technical information and reports for use by industry and government. These activities are carried out by the volunteer members of TIA Engineering Committees, operating within the TIA Standards and Technology Department.

This Manual describes the manner in which the Standards and Technology Department of the Telecommunications Industry Association is organized and the manner in which its activities are conducted.

Specific responsibility for overseeing the Standards and Technology Department and the engineering committees has been vested by the TIA Board of Directors in the TIA Technical Committee, one of six standing committees established by the Board under the provisions of Article VIII, Section 3 of the bylaws of the Association. In addition, the product divisions of the Association provide guidance, direction, and funding to the engineering committees working in their product areas.

Standards and specification writing are centralized under the Standards and Technology Department in order to coordinate the technical program and provide a unified interface with the American National Standards Institute and other standards providers, in recognition of the special legal requirements which apply to standards activities.

NOTE: The term "chairman" is used throughout this manual to describe a person of either gender who serves to chair a committee or subelement. Similarly, the pronoun "his" is sometimes used here to describe a person of either gender, and should be understood as "his or her."

A further purpose of this manual is to provide legal and policy guidelines for the formulation and conduct of Engineering Committees, Subcommittees, and Working Groups (all referred to here as formulating groups). It specifies membership requirements; development and implementation of a program of work; the conduct of meetings; administrative processing of contributions, drafts, and correspondence; relations with other standards bodies; and the responsibilities of chairmen.

STATEMENTS OF POLICY OF THE STANDARDS AND TECHNOLOGY DEPARTMENT

Relationship with Other Elements of TIA

The TIA Engineering committees shall confine their activities to the preparation of standards and specifications, and to other engineering matters, as further defined in section 3.3 of this manual. The Engineering Committees shall conduct their activities in strict compliance with the policies, rules and procedures set forth in this manual, and with the Legal Guides set forth in Annex E to this manual.

It is intended that the other standing and special committees and the TIA product divisions shall confine their activities to other than standards, specifications, and engineering matters, and shall refer such matters to the Standards and Technology Department and appropriate engineering committees.

The product divisions shall recommend work programs and guide the efforts of the engineering committees which they sponsor within the Standards and Technology Department, but shall not themselves engage in the preparation of standards or specifications.

Relationship with ANSI

TIA is a member of the American National Standards Institute (ANSI) and recognizes it as the National Standards Body for the United States.

As a matter of policy, all new TIA Standards and Specifications are submitted to ANSI for recognition as American National Standards.

International Cooperation and Harmonization

TIA's trade policy goals include removal of barriers to market access, full participation of U.S. government and industry in the standards setting process worldwide, and achievement of a minimum level of standards required to ensure interoperability and proper function of the international network. In the spirit of these TIA encourages its committees and staff cooperatively with other members of the ANSI confederation and with international standards bodies and counterpart national and regional standards bodies outside the United States to harmonize telecommunications equipment standards and to avoid unnecessary duplication of effort. To this end, TIA will share its standards and specifications, whether work in progress or completed works, with counterpart standards organizations in other countries, subject to the intellectual property rights and other property and contractural rights of third parties and any applicable laws and government regulations.

In recognition of the common telecommunications network heritage shared by the United States and Canada, TIA committees are encouraged to work with their Canadian counterpart groups to produce common American National Standards and National Standards of Canada.

TIA Engineering Manual Page iv

IMPORTANT TERMS

An understanding of the terms below will be helpful in following the text of this manual.

Division- An affinity grouping of TIA member companies by product category. (See 2.1.)

Engineering Committee- A committee of volunteer members, established within the TIA Standards and Technology Department to formulate standards and provide other engineering functions in support of TIA. (See 3.1.)

FO- Committee- An Engineering Committee sponsored by the TIA Fiber Optic Division.

Formulating group- An Engineering Committee or subelement (subcommittee or working group) which has responsibility for formulation of standards or specifications. (See 3.1 and 3.3.)

Member (TIA) - Companies holding general class membership in TIA. (See 2.1.)

Member (formulating group) - A company which holds voting status in a TIA Engineering Committee or subelement. Not necessarily a TIA member. (See 3.2.1)

Specification (TIA) - As used in this manual, a document prepared specifically to facilitate procurement that clearly and accurately describes the essential technical requirements for purchased materiel. Procedures necessary to determine that the requirements for the purchased materiel covered by the specification have been met are also referenced or included. (See 6.1.)

Standard (TIA) - As used in this manual, a document that establishes engineering and technical requirements for processes, procedures, practices and methods that have been decreed by authority or adopted by consensus. Note: unless indicated otherwise, the word "standard" in this manual applies equally to TIA standards and TIA Specifications. (See 6.1.)

Supplemental Representative- An individual designated by a company, which is a member of a formulating group, to receive committee mailings. (See 3.2.3.3.)

Technical Committee- One of the standing committees of the Board of Directors of TIA. (The Technical Committee is not to be confused with "Engineering Committee"). The Technical Committee sets policy for the operation of the TIA engineering program. (See 2.4.1.)

Technical Standards Subcommittee (TSSC)- A subcommittee of the Technical Committee, which performs a specific role in the standards approval process. (See 2.4.2.)

TR- Committee- An engineering committee sponsored by the TIA Mobile Communications, Network Equipment, or User Premises Equipment Divisions. The designator is historic, and probably refers to "transmitters".

Trial Use Standard- A standard released by an engineering committee for industry use for a limited period of time prior to its being submitted for industry ballot. (See 8.1.)

Voting Representative- An individual designated by a company which is a member of a formulating group, to vote on its behalf. (See 3.2.3.1.)

TIA Engineering Manual Page vi

(This page intentionally blank.)

1 OBJECTIVE AND SCOPE

The engineering activities of the TIA are organized to conduct standardization programs and to provide other appropriate technical and engineering services within the scope of the Association, subject to policies established by the Board of Directors. All activities must be conducted within the Legal Guides established by the Association.

2 ORGANIZATION

2.1 General

The TIA is a national full-service trade association serving manufacturers and distributors of telecommunications equipment. The voting members of the association are U.S. companies engaged principally in the business of manufacturing or selling telecommunications products.

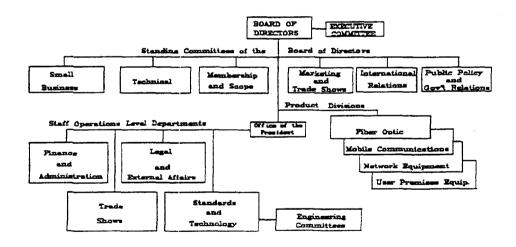


Figure 1